Petro/Chem Engineer

1967 ANNUAL INDEX FOR VOLUME XXXIX

SUBJECT INDEX

TITLE OF ARTICLE AND AUTHOR	MONTH	Pg
AIR POLLUTION		
What's Ahead for the HPI, William F. Bland	Jan.	21
Will Pollution Shackle the HPI?, David J. Mistrot	Feb.	21
Let's Put Pollution in Perspective, Peter S. Chambers.	Feb.	23
Watch for Federal Agencies to Flex New Anti-Pollution Muscles, E.E. Halmos Jr.	Feb.	30
Refiner Money & Manpower Fighting War on Pollution, Richard Martin	Feb.	32
Directory of State Air & Water Pollution Control Agency Personnel	Feb.	40
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher.	May	21
Sensor Measures Stack Effluents--Accurately, C.E. Hicks	May	33
Determine Optimum Stack Size, William R. Chalker	May	35
Fiber Mist Eliminators on Process Gases.	May	42
Collection Equipment vs Particle Size.	May	42
Petrochemical Pollution Manpower	May	43
Nomograph Solves Condenser Sizing Equipment Equations, William D. Baasel.	May	48
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief and Blowdown.	May	53
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute.	June	32
Residual Fuel Oil--Hydrosulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
AUTOMATION		
First Complete DDC Refinery Going Onstream, V.S. Swaminathan	March	39
Dissolved Oxygen Probe, Vernon T. Stack Jr.	May	60
Atlantic Shaves Time, Costs with Remote Tank Gaging.	Sept.	64
BLENDING		
Completely Computerized HPI Plants a Reality, David J. Mistrot	Dec.	14
CATALYSTS		
What's in the World Petroleum Congress for the HPI	March	31
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
CHILLERS		
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
COMPRESSORS		
Petro/Chem Engineer's Continuous Tables: Nomogram for Estimating Reciprocating Compressor Load or Capacity Requirements.	Feb.	73
Nomogram for Estimating Peaking Power of Prime Movers	Feb.	75
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
How to Control Power Recovery Expander-Compressors, E.C. Rafferty.	Sept.	23
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 8: Air Systems.	Sept.	45
COMPUTERS		
First Complete DDC Refinery Going Onstream, V.S. Swaminathan.	March	39
Direct Charting of PERT-Time Via Computer, Luigi Manganelli	June	21
Atlantic Shaves Time, Costs with Remote Tank Gaging.	Sept.	34
Shortcuts to Design & Revamp of Process Pump Systems, David M. Kirkpatrick; Part 1: Electrical Analogy Simplifies Piping Network Design	Nov.	40
Completely Computerized HPI Plants a Reality, David J. Mistrot	Dec.	14
CONDENSERS		
Nomograph Solves Condenser Sizing Equations, William D. Baasel.	May	48
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
COOLING TOWERS		
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 5: Cooling Systems.	March	63
Reduce Cooling Tower Blowdown, D.G. Downing, J. Printz, D.L. Owens.	Aug.	36
CONSTRUCTION PROJECTS		
Direct Charting of PERT-Time Via Computer, Luigi Manganelli	June	21
Evaluate Projects Continuously Until Final Capital Commitment, R. Foy Phillips.	June	27
CONTINUOUS TABLES		
Nomogram for Estimating Reciprocating Compressor Load or Capacity Requirements	Feb.	73
Nomogram for Estimating Peaking Power of Prime Movers	Feb.	75
Pressure in Pounds Per Square Inch	March	79
Vapor Pressure Chart	March	80
Physical Constants of Paraffin Hydrocarbons and Other Components of Natural Gas.	April	69
Measuring Profitability by Present Worth Method.	June	55
Pressure Drop for Laminar Flow	Sept.	39
Reynolds Number for Liquid Flow.	Sept.	40
Curves for Eqtimating Volume Chance When Blending Volatile Hydrocarbons with Crude Oil	Nov.	37
CONTROLS		
Sensor Measures Stack Effluents--Accurately, C.E. Hicks.	May	33
How the Carbon Analyzer Works, Robert T. Williams.	May	39
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief and Blowdown.	May	53
Dissolved Oxygen Probe, Vernon T. Stack Jr.	May	60
How to Control Power Recovery Expander-Compressors, E.C. Rafferty.	Sept.	23
Atlantic Shaves Time, Costs with Remote Tank Gaging.	Sept.	34
Completely Computerized HPI Plants a Reality, David J. Mistrot	Dec.	14
Motors Protected by Temperature Monitoring, Thomas Regenczuk	Dec.	23
CONVERSIONS		
Pressure in Pounds Per Square Inch	March	79
Vapor Pressure Chart	March	80
Pressure Drop for Laminar Flow	Sept.	39
Reynolds Number for Liquid Flow.	Sept.	40
CORROSION		
What's in the World Petroleum Congress for the HPI	March	31
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
New Materials, Fabrication Problems, William F. Bland.	Nov.	25
COST ESTIMATION		
Refiner Money & Manpower Fighting War on Pollution, Richard Martin	Feb.	32
Directory of State Air & Water Pollution Control Agency Personnel	Feb.	40
Why & How to Evaluate Customer-Oriented Plant Sites, Edwin I. Oppel	April	34

TITLE OF ARTICLE AND AUTHOR	MONTH	Pg
Direct Charting of PERT-Time Via Computer, Luigi Manganelli	June	21
Evaluate Projects Continuously Until Final Capital Commitment, R. Foy Phillips.	June	27
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute.	June	32
Measuring Profitability by Present Worth Method.	June	55
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
CRYOGENICS		
What's in the World Petroleum Congress for the HPI	March	31
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Valves for Extreme Temperature and Pressure Service, D.J. Easton.	July	60
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
DESALTING		
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher.	May	21
DESIGN/CONSTRUCTION		
What's Ahead for the HPI, William F. Bland	Jan.	21
What's in the World Petroleum Congress for the HPI	March	31
Direct Charting of PERT-Time Via Computer, Luigi Manganelli	June	21
Evaluate Projects Continuously Until Final Capital Commitment, R. Foy Phillips.	June	27
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
Fourth Party Monitor for Construction Projects, Victor Forzley	Nov.	27
Wind Load Design, G.B. Moody; Part 1: Wind Load and Anchor Bolt Design for Towers.	Dec.	26
DESIGN DATA AND METHODS		
Fundamentals of Engineering Offsites and Utilities for the HPI, George Patterson; Part 3B: Product Shipping	Jan.	34
Let's Put Pollution in Perspective, Peter S. Chambers.	Feb.	23
Phenol Losses Cut a Third with New Extraction Unit	Feb.	29
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 4: Sewer Systems and Waste Treatment Facilities	Feb.	50
Nomogram for Estimating Reciprocating Compressor Load or Capacity Requirements	Feb.	73
Nomogram for Estimating Peaking Power of Prime Movers	Feb.	75
How to Design Fuel Systems to Increase Gas Turbine Blade Life, John A. Weir	March	58
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 5: Cooling Systems.	March	63
Pressure in Pounds Per Square Inch	March	79
Vapor Pressure Chart	March	80
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Physical Constants of Paraffin Hydrocarbons and Other Components of Natural Gas.	April	69
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher.	May	21
How to Treat Petrochemical Wastes.	May	25
Determine Optimum Stack Size, William R. Chalker	May	35
Nomograph Solves Condenser Sizing Equations, William D. Baasel.	May	48
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief and Blowdown.	May	53
Dissolved Oxygen Probe, Vernon T. Stack Jr.	May	60
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute	June	32
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Valves for Extreme Temperature and Pressure Service, D.J. Easton.	July	60
Effective Heat Exchanger Specs, W.R. Blackburn	Aug.	19
Plate-Fin Heat Exchanger Use, H.J. Mikus	Aug.	24
Modular Units of Heat Exchangers, Thomas P. Kroehle.	Aug.	28
Electric Process Heating, R.M. Yurkanin.	Aug.	32
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 7: Utility Plants	Aug.	39
How to Control Power Recovery Expander-Compressors, E.C. Rafferty.	Sept.	23
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
Atlantic Shaves Time, Costs with Remote Tank Gaging.	Sept.	34
Pressure Drop for Laminar Flow	Sept.	39
Reynolds Number for Liquid Flow.	Sept.	40
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 8: Air Systems.	Sept.	45
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 9: Fuel Systems.	Oct.	32
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
New Materials, Fabrication Problems, William F. Bland.	Nov.	25
Shortcuts to Design & Revamp of Process Pump Systems, David M. Kirkpatrick; Part 1: Electrical Analogy Simplifies Piping Network Design	Nov.	40
Wind Load Design, G.B. Moody; Part 1: Wind Load and Anchor Bolt Design for Towers.	Dec.	26
DESIGN HINTS		
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 3B: Product Shipping	Jan.	34
Will Pollution Shackle the HPI?, David J. Mistrot.	Feb.	21
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 4: Sewer Systems and Waste Treatment Facilities	Feb.	50
How to Design Fuel Systems to Increase Gas Turbine Blade Life, John A. Weir	March	58
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 5: Cooling Systems.	March	63
Sensor Measures Stack Effluents--Accurately, C.E. Hicks	May	33
Nomograph Solves Condenser Sizing Equations, William D. Baasel.	May	48
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief & Blowdown.	May	53
Valves for Extreme Temperature and Pressure Service, D.J. Easton.	July	60
Effective Heat Exchanger Specs, W.R. Blackburn	Aug.	19
Shortcuts to Design & Revamp of Process Pump Systems, David M. Kirkpatrick; Part 1: Electrical Analogy Simplifies Piping Network Design	Nov.	40
DIRECTORIES		
Refiner Money & Manpower Fighting War on Pollution, Richard Martin	Feb.	32
Directory of State Air & Water Pollution Control Agency Personnel	Feb.	40
Where to Get Plant Site Selection Data, Richard Martin	April	40
Petrochemical Plants/Products/Personnel Directory, U.S., Canada, Puerto Rico.	April	50
Petrochemicals Product Locator Key	April	91
Petrochemical Pollution Manpower	May	43
International Engineering/Construction/Service Firm Directory.	June	39
First Annual Refining Census, Plants/Processes/ Personnel/Plans for Expansion.	Oct.	35
DESULFURIZATION		
What's in the World Petroleum Congress for the HPI	March	31
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher.	May	21
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute	June	32
Residual Fuel Oil--Hydrodesulfurize of Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
ENERGY		
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson, Part 7: Utility Plants	Aug.	39
How to Control Power Recovery Expander-Compressors, E.C. Rafferty.	Sept.	23
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 8: Air Systems.	Sept.	45
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 9: Fuel Systems.	Oct.	32
ENGINEERING/CONSTRUCTION FIRMS		
Why & How to Evaluate Customer-Oriented Plant Sites, Edwin I. Oppel	April	34
International Engineering/Construction/Service Firm Directory.	June	39
What the Chemical Engineer Can Expect After Graduation, J.R. Ghublikian.	Sept.	36
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
Fourth Party Monitor for Construction Projects, Victor Forzley	Nov.	27
Minimize Downtime From Major Houdriflow Collapse	Dec.	42
ETHANE RECOVERY		
1967--The Beginning of the Ethane Era, Ronald E. Cannon	Jan.	31
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
EQUIPMENT SELECTION		
Esso Research Uses Hydrocarbon-in-Air Detector to Find Leaks	Feb.	28
Nomogram for Estimating Reciprocating Compressor Load or Capacity Requirements.	Feb.	73
Nomogram for Estimating Peaking Power of Prime Movers	Feb.	75
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher.	May	21
How to Treat Petrochemical Wastes.	May	25
Sensor Measures Stack Effluents--Accurately, C.E. Hicks	May	33
Determine Optimum Stack Size, William R. Chalker	May	35
How the Carbon Analyzer Works, Robert T. Williams.	May	39
Collection Equipment vs Particle Size.	May	42
Fiber Mist Eliminators on Process Gases.	May	42
Nomograph Solves Condenser Sizing Equations, William D. Baasel.	May	48
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief & Blowdown.	May	53
Dissolved Oxygen Probe, Vernon T. Stack Jr.	May	60

TITLE OF ARTICLE AND AUTHOR	MONTH	Pg
Effective Heat Exchanger Specs, W.R. Blackburn	Aug.	19
Plate-Fin Heat Exchanger Use, H.J. Mikus	Aug.	24
Modular Units of Heat Exchangers, Thomas P. Kroehle	Aug.	28
Electric Process Heating, R.M. Yurkanin	Aug.	32
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 7: Utility Plants	Aug.	39
How to Control Power Recovery Expander-Compressors, E.C. Rafferty	Sept.	23
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
Advantages of Plate-In-Frame Heat Exchangers, F.W. Wright	Sept.	31
Atlantic Shaves Time, Costs with Remote Tank Gaging	Sept.	34
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
Fundamentals of Engineering Offsites and Utilities for the HPI, George Patterson; Part 9: Fuel Systems	Oct.	32
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
Shortcuts to Design & Revamp of Process Pump Systems, David M. Kirkpatrick; Part 1: Electrical Analogy Simplifies Piping Network Design	Nov.	40
Process Stream Analyzer Reliability, J. West Loveland	Dec.	18
Motors Protected by Temperature Monitoring, Thomas Regenczuk	Dec.	23
Wind Load Design, G.B. Moody; Part 1: Wind Load and Anchor Bolt Design for Towers	Dec.	26
FEEDSTOCKS		
What's Ahead for the HPI, William F. Bland	Jan.	21
A Growing Future for Polybasic Aromatic Acids, Peter W. Sherwood	March	25
Petrochemicals Output Hits New Records, William F. Bland	April	21
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Promix System Assures Gulf Coast Petrochemical Feedstocks, David J. Mistrot	April	30
On Perry's Predictions of Feedstock Shortages, David J. Mistrot	April	32
FUELS		
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 7: Utility Plants	Aug.	39
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 9: Fuel Systems	Oct.	32
FUEL SYSTEMS		
How to Design Fuel Systems to Increase Gas Turbine Blade Life, John A. Weir	March	58
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 7: Utility Plants	Aug.	39
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 9: Fuel Systems	Oct.	32
FUNDAMENTALS OF ENGINEERING OFFSITES & UTILITIES FOR THE HPI, George C. Patterson;		
Part 3B: Product Shipping	Jan.	34
Part 4: Sewer Systems and Waste Treatment Facilities	Feb.	50
Part 5: Cooling Systems	March	63
Part 6: Pressure Relief & Blowdown	May	53
Part 7: Utility Plants	Aug.	39
Part 8: Air Systems	Sept.	45
Part 9: Fuel Systems	Oct.	32
FURNACES		
Determine Optimum Stack Size, William R. Chalker	May	35
Furnaces Travel by Sea to NOCIL Plant in India	Aug.	52
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
GAS PLANT OPERATION		
1967--The Beginning of the Ethane Era, Ronald E. Cannon	Jan.	31
GAS PROCESSING		
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Promix System Assures Gulf Coast Petrochemical Feedstocks, David J. Mistrot	April	30
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute	June	32
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
HEAT EXCHANGERS		
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 5: Cooling Systems	March	63
Effective Heat Exchanger Specs, W.R. Blackburn	Aug.	19
Plate-Fin Heat Exchanger Use, H.J. Mikus	Aug.	24
Modular Units of Heat Exchangers, Thomas P. Kroehle	Aug.	28
Electric Process Heating, R.M. Yurkanin	Aug.	32
Advantages of Plate-In-Frame Heat Exchangers, F.W. Wright	Sept.	31
HYDROGEN		
What's Ahead for the HPI, William F. Bland	Jan.	21
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute	June	32
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
HYDROCRACKING		
What's in the World Petroleum Congress for the HPI	March	31
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute	June	32
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
IMPORTS		
What's Ahead for the HPI, William F. Bland	Jan.	21
A More Cautious Congress in '67, E.E. Halmos Jr.	Jan.	42
Petrochemicals Output Hits New Records, William F. Bland	April	21
INSTRUMENTATION/CONTROL		
Increase Gas Turbine Blade Life, John A. Weir	March	58
How the Carbon Analyzer Works, Robert T. Williams	May	39
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief & Blowdown	May	53
Dissolved Oxygen Probe, Vernon T. Stack Jr.	May	60
How to Control Power Recovery Expander-Compressors, E.C. Rafferty	Sept.	23
Atlantic Shaves Time, Costs with Remote Tank Gaging	Sept.	34
Process Stream Analyzer Reliability, J. West Loveland	Dec.	18
Motors Protected by Temperature Monitoring, Thomas Regenczuk	Dec.	23
INTEGRATION		
What's Ahead for the HPI, William F. Bland	Jan.	21
LOADING, PRODUCT		
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 3B: Product Shipping	Jan.	34
MAINTENANCE		
Special Body Design Can Reduce Control Valve Maintenance, Robert S. Morrison	March	44
Reduce Cooling Tower Blowdown, D.G. Downing, J. Printz, D.L. Owens	Aug.	36
Calculate Aluminum Bearing Crush, Jack Box	Sept.	42
Continental Refinery Uses Sophisticated Maintenance Program	Sept.	49
MATERIALS OF CONSTRUCTION		
What's Ahead for the HPI, William F. Bland	Jan.	21
What's in the World Petroleum Congress for the HPI	March	31
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Valves for Extreme Temperature and Pressure Service, D.J. Easton	July	60
The HPI Looks at High Alloy Centrifugal Castings, E.A. Schoefer	Aug.	50
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
New Materials, Fabrication Problems, William F. Bland	Nov.	25
NATURAL GAS LIQUIDS		
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Promix System Assures Gulf Coast Petrochemical Feedstocks, David J. Mistrot	April	30
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
NATURAL GAS PROCESSORS ASSOCIATION		
1967--The Beginning of the Ethane Era, Ronald E. Cannon	Jan.	31
OPERATING METHODS		
Esso Research Uses Hydrocarbon-in-Air Detector to Find Leaks	Feb.	28
Why & How to Evaluate Customer-Oriented Plant Sites, Edwin I. Oppel	April	34
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher	May	21
Sensor Measures Stack Effluents--Accurately, C.E. Hicks	May	33
How the Carbon Analyzer Works, Robert T. Williams	May	39
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute	June	32
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Reduce Cooling Tower Blowdown, D.G. Downing, J. Printz, D.L. Owens	Aug.	36
Choosing Between the Turbo-Expander & Refrigerated Absorption, Freeman L. Morgan Jr.	Sept.	27
What the Chemical Engineer Can Expect After Graduation, J.R. Ghublikian	Sept.	36
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
Completely Computerized HPI Plants a Reality, David J. Mistrot	Dec.	14
Motors Protected by Temperature Monitoring, Thomas Regenczuk	Dec.	23
OUTLOOK		
What's Ahead for the HPI, William F. Bland	Jan.	21
1967--The Beginning of the Ethane Era, Ronald E. Cannon	Jan.	31
Watch for Changes in Military Product Specs, Packaging Requirements	Jan.	38
A More Cautious Congress in '67, E.E. Halmos Jr.	Jan.	42
Major Challenges to Gas Processing Technology, Robert R. Click	Jan.	46
A Growing Future for Polybasic Aromatic Acids, Peter W. Sherwood	March	25
Petrochemicals Output Hits New Records, William F. Bland	April	21
On Perry's Predictions of Feedstock Shortages, David J. Mistrot	April	32

TITLE OF ARTICLE AND AUTHOR	MONTH	Pg
PETROCHEMICALS		
What's Ahead for the HPI, William F. Bland	Jan.	21
A Growing Future for Polybasic Aromatic Acids, Peter W. Sherwood	March	25
Petrochemicals Output Hits New Records, William F. Bland	April	21
Promix System Assures Gulf Coast Petrochemical Feedstocks, David J. Mistrot	April	30
Why & How to Evaluate Customer-Oriented Plant Sites, Edwin I. Oppel	April	34
Petrochemical Plants/Products/Personnel Directory, U.S., Canada, Puerto Rico	April	50
Petrochemicals Product Locator Key	April	91
How to Treat Petrochemical Wastes	May	25
Petrochemical Pollution Manpower	May	43
Sulfur Recovery for Profit and Air Pollution Abatement, A.E. Chute	June	32
Esso Pappas (Greece) Refining-Petrochemical Complex, Merle E. Fisk	Nov.	33
PHYSICAL PROPERTIES AND CONVERSIONS		
Pressure in Pounds Per Square Inch	March	79
Vapor Pressure Chart	March	80
Physical Constants of Paraffin Hydrocarbons and Other Components of Natural Gas	April	69
Valves for Extreme Temperature and Pressure Service, D.J. Easton	July	60
Pressure Drop for Laminar Flow	Sept.	39
Reynolds Number for Liquid Flow	Sept.	40
Curves for Estimating Volume Change When Blending Volatile Hydrocarbons with Crude Oil	Nov.	37
PIPING DESIGN		
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson: Part 4: Sewer Systems and Waste Treatment Facilities	Feb.	50
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson: Part 5: Cooling Systems	March	63
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson: Part 6: Pressure Relief & Blowdown	May	53
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson: Part 8: Air Systems	Sept.	45
Shortcuts to Design & Revamp of Process Pump Systems, David M. Kirkpatrick: Part 2: Piping Systems for Difficult-to-Pump Fluids	Dec.	32
PLANT/REFINERY DESCRIPTIONS		
First Complete DDC Refinery Going Onstream, V.S. Swaminathan	March	39
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Promix System Assures Gulf Coast Petrochemical Feedstocks, David J. Mistrot	April	30
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Atlantic Shaves Time, Costs with Remote Tank Gaging	Sept.	34
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Esso Pappas (Greece) Refining-Petrochemical Complex, Merle E. Fisk	Nov.	33
POLLUTION		
What's Ahead for the HPI, William F. Bland	Jan.	21
A More Cautious Congress in '67, E.E. Halmos Jr.	Jan.	42
Will Pollution Shackle the HPI?, David J. Mistrot	Feb.	21
Let's Put Pollution in Perspective, Peter S. Chambers	Feb.	23
Esso Research Uses Hydrocarbon-in-Air Detector to Find Leaks	Feb.	28
Phenol Losses Cut a Third with New Extraction Unit	Feb.	29
Watch for Federal Agencies to Flex New Anti-Pollution Muscles, E.E. Halmos Jr.	Feb.	30
Refiner Money & Manpower Fighting War On Pollution, Richard Martin	Feb.	32
Directory of State Air & Water Pollution Control Agency Personnel	Feb.	40
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson: Part 4: Sewer Systems and Waste Treatment Facilities	Feb.	50
What's in the World Petroleum Congress for the HPI	March	31
Increase Gas Turbine Blade Life, John A. Weir	March	58
Why & How to Evaluate Customer-Oriented Plant Sites, Edwin I. Oppel	April	34
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher	May	21
How to Treat Petrochemical Wastes	May	25
Sensor Measures Stack Effluents--Accurately, C.E. Hicks	May	33
Determine Optimum Stack Size, William R. Chalker	May	35
Fiber Mist Eliminators on Process Gases	May	42
Collection Equipment vs Particle Size	May	42
Petrochemical Pollution Manpower	May	43
Nomograph Solves Condenser Sizing Equations, William D. Baasel	May	48
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson: Part 6: Pressure Relief & Blowdown	May	53
Dissolved Oxygen Probe, Vernon T. Stack Jr.	May	60
Reduce Cooling Tower Blowdown, D.G. Downing, J. Printz, D.L. Owens	Aug.	36
Make Underground Waste Disposal Foolproof	Aug.	38
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
PROCESS OPERATIONS		
Phenol Losses Cut a Third with New Extraction Unit	Feb.	29
What's in the World Petroleum Congress for the HPI	March	31
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher	May	21
How to Treat Petrochemical Wastes	May	25
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Completely Computerized HPI Plants a Reality, David J. Mistrot	Dec.	14
PRODUCT SPECIFICATIONS		
What's Ahead for the HPI, William F. Bland	Jan.	21
Watch for Changes in Military Product Specs, Packaging Requirements	Jan.	38
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
PROTECTIVE COATINGS		
Custom Coatings Extend Service Life	Dec.	30
PUMPS		
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson: Part 5: Cooling Systems	March	63
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Shortcuts to Design & Revamp of Process Pump Systems, David M. Kirkpatrick: Part 2: Piping Systems for Difficult-to-Pump Fluids	Dec.	32
REFINING		
What's Ahead for the HPI, William F. Bland	Jan.	21
Watch for Changes in Military Product Specs, Packaging Requirements	Jan.	38
Phenol Losses Cut a Third with New Extraction Unit	Feb.	29
Refiner Money & Manpower Fighting War on Pollution, Richard Martin	Feb.	32
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
First Annual Refining Census, Plants/Processes/ Personnel/Plans for Expansion	Oct.	35
Esso Pappas (Greece) Refining-Petrochemical Complex, Merle E. Fisk	Nov.	33
SAFETY		
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson, Part 6: Pressure Relief & Blowdown	May	53
SHORTCUTS TO DESIGN & REVAMP OF PROCESS PUMP SYSTEMS, David M. Kirkpatrick: Part 1: Electrical Analogy Simplifies Piping Network Design	Nov.	40
Part 2: Piping Systems for Difficult-to-Pump Fluids	Dec.	32
SITE SELECTION		
Petrochemicals Output Hits New Records, William F. Bland	April	21
Promix System Assures Gulf Coast Petrochemical Feedstocks, David J. Mistrot	April	30
Why & How to Evaluate Customer-Oriented Plant Sites, Edwin I. Oppel	April	34
Where to Get Plant Site Selection Data, Richard Martin	April	40
Petrochemical Plants/Products/Personnel Directory, U.S., Canada, Puerto Rico	April	50
Petrochemicals Product Locator Key	April	91
STEAM GENERATION		
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson: Part 7: Utility Plants	Aug.	39
How to Control Power Recovery Expander-Compressors, E.C. Rafferty	Sept.	23
TANKS		
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Atlantic Shaves Time, Costs with Remote Tank Gaging	Sept.	34
TECHNOLOGY ADVANCES		
Major Challenges to Gas Processing Technology, Robert R. Click	Jan.	46
A Growing Future for Polybasic Aromatic Acids, Peter W. Sherwood	March	25
What's in the World Petroleum Congress for the HPI	March	31
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher	May	21
How to Treat Petrochemical Wastes	May	25
Sensor Measures Stack Effluents--Accurately, C.E. Hicks	May	33
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Reduce Cooling Tower Blowdown, D.G. Downing, J. Printz, D.L. Owens	Aug.	36
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?, David J. Mistrot	Oct.	24
Desulfurize Caribbean Resid, H.H. Meredith Jr.	Oct.	26
Materials--Construction Problems Challenge HPI, David J. Mistrot	Nov.	19
TURBINES		
How to Design Fuel Systems to Increase Gas Turbine Blade Life, John A. Weir	March	58
Recover Maximum Ethane for Petrochemical Feedstocks, David J. Mistrot	April	27
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
How to Control Power Recovery Expander-Compressors, E.C. Rafferty	Sept.	23

TITLE OF ARTICLE AND AUTHOR	MONTH	Pg
VALVES		
Special Body Design Can Reduce Control Valve Maintenance, Robert S. Morrison.	March	44
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief and Blowdown.	May	53
Cryogenic Systems, Equipment and Materials for the HPI, Charles H. Jordan and Marx Isaacs	July	55
Valves for Extreme Temperature and Pressure Service, D.J. Easton.	July	60
VIEWED FROM WASHINGTON		
A More Cautious Congress in '67, E.E. Halmos Jr.	Jan.	42
Watch for Federal Agencies to Flex New Anti-Pollution Muscles, E.E. Halmos Jr.	Feb.	30
WASTE DISPOSAL METHODS/TREATMENT		
Let's Put Pollution in Perspective, Peter S. Chambers.	Feb.	23
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher.	May	21
How to Treat Petrochemical Wastes.	May	25
Determine Optimum Stack Size, William R. Chalker	May	35
WATER POLLUTION		
What's Ahead for the HPI, William F. Bland	Jan.	21
Will Pollution Shackle the HPI?, David J. Mistrot.	Feb.	21
Let's Put Pollution in Perspective, Peter S. Chambers.	Feb.	23
Esso Research Uses Hydrocarbon-in-Air Detector to Find Leaks	Feb.	28
Phenol Losses Cut a Third with New Extraction Unit	Feb.	29
Watch for Federal Agencies to Flex New Anti-Pollution Muscles, E.E. Halmos Jr.	Feb.	30
Refiner Money & Manpower Fighting War on Pollution, Richard Martin	Feb.	32
Directory of State Air & Water Pollution Control Agency Personnel	Feb.	40
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 4: Sewer Systems and Waste Treatment Facilities	Feb.	50
Increase Gas Turbine Blade Life, John A. Weir.	March	58
Change Your Process to Alleviate your Pollution Problem, S.K. Mencher.	May	21
How the Carbon Analyzer Works, Robert T. Williams.	May	39
Fiber Mist Eliminators on Process Gases.	May	42
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 6: Pressure Relief & Blowdown.	May	53
Dissolved Oxygen Probe, Vernon T. Stack Jr.	May	60
WATER TREATMENT		
Phenol Losses Cut a Third with New Extraction Unit	Feb.	29
Fundamentals of Engineering Offsites & Utilities for the HPI, George C. Patterson; Part 4: Sewer Systems and Waste Treatment Facilities	Feb.	50
Make Underground Waste Disposal Foolproof.	Aug.	38
Fundamentals of Engineering Offsites and Utilities for the HPI, George C. Patterson; Part 7: Utility Plants	Aug.	39
WORLD PETROLEUM CONGRESS		
What's in the World Petroleum Congress for the HPI	March	31
Petrochemical Pollution Manpower	May	43

AUTHOR INDEX

AUTHOR	MONTH	Pg
Baasel, William D.		
Nomograph Solves Vent Condenser Sizing Equations	May	48
Blackburn, W.R.		
Effective Heat Exchanger Specs	Aug.	19
Bland, William F.		
What's Ahead for the HPI	Jan.	21
Petrochemicals Output Hits New Records	April	21
New Materials, Fabrication Problems.	Nov.	25
Box, Jack		
Calculate Aluminum Bearing Crush	Sept.	42
Cannon, Ronald E.		
1967--The Beginning of the Ethane Era.	Jan.	31
Chalker, William R.		
Determine Optimum Stack Size	May	35
Chambers, Peter S.		
Let's Put Pollution in Perspective	Feb.	23
Chute, A.E.		
Sulfur Recovery for Profit and Air Pollution Abatement	June	32
Click, Robert R.		
Major Challenges to Gas Processing Technology.	Jan.	46
Downing, D.G.		
Reduce Cooling Tower Blowdown.	Aug.	36
Fisk, Merle E.		
Esso Pappas (Greece) Refining-Petrochemical Complex.	Nov.	33
Forzley, Victor		
Fourth Party Monitor for Construction Projects	Nov.	27
Ghublikian, J.R.		
What the Chemical Engineer Can Expect After Graduation	Sept.	36
Halmos, E.E., Jr.		
A More Cautious Congress in '67.	Jan.	42
Watch for Federal Agencies to Flex New Anti-Pollution Muscles.	Feb.	32
Hicks, C.E.		
Sensor Measures Stack Effluents--Accurately.	May	33
Kirkpatrick, David M.		
Shortcuts to Design and Revamp Process Pump Systems:		
Part 1:	Nov.	40
Part 2:	Dec.	32
Kroehle, Thomas P.		
Modular Units of Heat Exchangers	Aug.	28
Loveland, J. West		
Process Stream Analyzer Reliability.	Dec.	18
Manganelli, Luigi		
Direct Charting of PERT-Time Via Computer.	June	21
Martin, Richard		
Refiner Money & Manpower Fighting War on Pollution	Feb.	32
Track Down Pollution Sources	March	48
Where to Get Plant Site Selection Data	April	40
Mencher, S.K.		
Change Your Process to Alleviate your Pollution Problem.	May	21
Meredith, H.H., Jr.		
Caribbean Resid Desulfurization.	Oct.	26
Mikus, H.J.		
Plate-Fin Heat Exchanger Use	Aug.	24
Mistrot, David J.		
The Urgent Call for Innovation and Action.	Feb.	21
Recover Maximum Ethane for Petrochemical Feedstocks.	April	27
On Perry's Predictions of Feedstock Shortages.	April	30
Residual Fuel Oil--Hydrodesulfurize or Hydrocrack?	Oct.	24
Materials--Construction Problems Challenge HPI	Nov.	19
Completely Computerized HPI Plants a Reality	Dec.	14
Moody, G.B.		
Wind Load Design		
Part 1:	Dec.	26
Morgan, Freeman L., Jr.		
Choosing Between the Turbo-Expander & Refrigerated Absorption	Sept.	27
Morrison, Robert S.		
Special Body Design Can Reduce Control Valve Maintenance.	March	44
Oppel, Edwin I.		
Why & How to Evaluate Customer-Oriented Plant Sites.	April	34
Owens, D.L.		
Reduce Cooling Tower Blowdown.	Aug.	36
Patterson, George C.		
Fundamentals of Engineering Offsites and Utilities for the HPI: Part 3B	Jan.	34
Part 4	Feb.	50
Part 5	March	63
Part 6	May	53
Part 7	Aug.	39
Part 8	Sept.	45
Part 9	Oct.	32
Phillips, R. Foy		
Evaluate Projects Continuously Until Final Capital Commitment	June	27
Printz, J.		
Reduce Cooling Tower Blowdown.	Aug.	36
Rafferty, E.C.		
How to Control Power Recovery Expander-Compressors	Sept.	23
Regenczuk, Thomas		
Motors Protected by Temperature Monitoring	Dec.	23
Schoefer, E.A.		
The HPI Looks at High Alloy Centrifugal Castings	Aug.	50
Sherwood, Peter W.		
A Growing Future for Polybasic Aromatic Acids.	March	25
Stack, Vernon T., Jr.		
Dissolved Oxygen Probe	May,	60
Swaminathan, V.S.		
First Complete DDC Refinery Going Onstream	March	39
Weir, John A.		
Increase Gas Turbine Blade Life.	March	58
Williams, Robert T.		
How the Carbon Analyzer Works.	May	39
Wright, F.W.		
Advantages of Plate-In-Frame Heat Exchangers	Sept.	31
Yurkanin, R.M.		
Electric Process Heating	Aug.	32

Doubt Costs You Money

...so let PEPCO take the doubt out of choosing the right material to help you in your particular field.

What is your specialty? . . . You will find what you need in PEPCO's Library of Information.

REFINING AND PROCESSING

☐ **Modern Distillation Handbook**
Examines thermodynamic consideration and other factors in distillation. 68 pp. $2.50

☐ **Catalytic Alkylation**
Special report with 16 tables and 14 figures explain various processes available. 23 pp. $1.50

☐ **Catalytic Reforming**
Describes all different catalytic reforming processes available. 28 pp. $1.50

☐ **HPI Equipment Selection**
Five categories of equipment with essential information for deciding specification. 44 pp. $1.50

☐ **Hydrocracking — Today and Tomorrow**
Several processes that extend usefulness of crude oil and allow flexibility and balance. 24 pp. $1.50

TEXTBOOKS

☐ **Cryogenics** by Michael McClintock. Hard-to-collect data in such phases as liquefied gases, insulation, helium, etc. (1964) 228 pp. $10.75

☐ **Handbook of Heat Transfer Media** by Paul L. Geiringer. All engineering data available on high-temperature heating problems in one volume. (1962) 227 pp. $12.50

☐ **Advances in Petroleum Chemistry and Refining** edited by Kobe and McKetta, U. of Texas. Economics and trends to processes and equipment. Vol. X. (1965) 571 pp. $27.50

☐ **Fundamentals of Cost Engineering in the Chemical Industry** by H. Carl Bauman. Developing short-cut techniques for accurate estimation of capital and operating costs. (1964) 416 pp. $13.50

☐ **Better Report Writing** (2nd ed.) by Willis H. Waldo. Technical people responsible for reports find this essential aid. (1965) 288 pp. $10.00

☐ **Oil Hydraulic Power and Its Industrial Applications** by Walter Ernst. Basics of fluid mechanics through component and circuit design to data on commercial equipment. (2nd ed.) 467 pp. 378 illus. $14.75

MANAGEMENT

☐ **Better Communications**
A common sense approach to learning how to be more effective in language. 48 pp. $2.50

☐ **Economics of Communication**
Cut costs, increase profits through imaginative use of communications media. 28 pp. $1.50

☐ **Total Planning for Profitability**
A look at approaches to long and short range planning by several authorities. 32 pp. $1.50

☐ **Letter to Fortune From Stanley Learned**
This rebuttal to Gilbert Burck's critical article is best brief analysis of industry. $.50

☐ **How To Measure Profits**
Evaluation methods for engineers who must weigh economic benefits of projects. 36 pp. $2.50

REMEMBER! You can still get all PM Reports for only $.50 each.

Mark this form to obtain your money-saving material and send to—

Service R & D Department

PETROLEUM ENGINEER PUBLISHING COMPANY

P.O. Box 1589 • Dallas, Texas 75221

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

☐ Bill me plus postage.
☐ Payment enclosed. Save postage.
(Advance payment required on orders outside the USA.)